



Planitop[®] 21

Thin-Build, Two-Component Rendering Mortar



DESCRIPTION

Planitop 21 is a thin-build, two-component, polymer-modified cementitious mortar.

FEATURES AND BENEFITS

- Specially formulated for horizontal, vertical and overhead concrete surface renders up to 1/4" (6 mm) thick
- Contains high concentration of synthetic polymers and high-strength hydraulic binders for excellent compressive and flexural strength
- Highly versatile mortar that can be applied with a trowel, hopper gun or spray pump
- *Planitop 21* adheres well to old concrete surfaces and has good resistance to freeze/thaw conditions and de-icing salts with proper preparation. Before application of *Planitop 21*, roughen concrete surfaces and saturate surface-dry (SSD).

WHERE TO USE

- Use for horizontal, vertical and overhead concrete surface renders up to a thickness of 1/4" (6 mm). *Planitop 21* is suitable for precast, cast-in-place, post-tensioned and pre-stressed concrete repairs.
- Use for renovating and resurfacing concrete structures such as tunnels, bridges, overpasses, retaining walls, beams, building facades and ceilings.
- Use for treating blemishes and defects in concrete surfaces such as filling honeycombs, voids and cavities.
- Use for renovating concrete surfaces that are subject to moderately aggressive pollutants.

LIMITATIONS

- Do not install over substrates containing asbestos.
- Do not add other additives, cement or aggregates to *Planitop 21*.
- *Planitop 21* is not a construction grout and should not be used for anchoring purposes. Use MAPEI's *Planigrout*[®] 712 (see Technical Data Sheet [TDS] for details) for anchoring and *Planitop 15* (see TDS for details) for pouring into formwork.
- Recommended for use at temperatures between 45°F to 95°F (7°C to 35°C). Follow hot- and cold-weather ACI guidelines when installing at below 45°F (7°C) or above 85°F (29°C).

SUITABLE SUBSTRATES

- Properly prepared masonry and concrete at least 28 days old

Contact MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

SURFACE PREPARATION

- All substrates must be structurally sound, stable and solid.
- Thoroughly clean the surface of any substance that could interfere with the bond of the installation material, including dirt, paint, tar, asphalt, wax, oil, grease, latex compounds, form release agents, laitance, loose toppings, foreign substances and any other residues.
- Concrete surfaces must be mechanically profiled and prepared by sandblasting, water-jetting or other engineer-approved methods. Reference International Concrete Repair Institute (ICRI) concrete surface profile (CSP) Standards #2 to #4 for acceptable concrete surface profile.



- MAPEI recommends concrete substrate and ambient temperatures at between 45°F and 95°F (7°C and 35°C) before, during and after application. Temperatures must be maintained within this range for at least 72 hours after the installation of *Planitop 21*. Follow hot and cold weather ACI guidelines when installing below 45°F (7°C) or above 85°F (29°C).
- Concrete substrates should be SSD (saturate surface-dry).

MIXING

Choose all appropriate safety equipment before use. Refer to the Safety Data Sheet for details.

1. Into a clean mixing container, pour 4/5 of the required amount of *Planitop* latex additive (Part B).
2. Slowly add *Planitop 21* powder (Part A) to *Planitop* Part B while mixing with a low-speed mixer. Add as much of the remaining 1/5 of *Planitop* Part B as needed to achieve the desired consistency. Mix for up to 4 minutes, to a smooth, homogenous consistency.
3. Do not overmix.
4. Mix only as much material as can be applied within a 30-minute period.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Apply *Planitop 21* with a trowel, hopper gun or a spray pump on horizontal, vertical and overhead surfaces. The maximum thickness per coat is 1/4" (6 mm).
2. When applying *Planitop 21* in lifts, wait for the previous lift to reach final set (in less than 3 hours at 73°F [23°C]). Finish the previous lift in a cross-hatch pattern. The maximum buildup application thickness of *Planitop 21* is 1" (2,5 cm), based on 4 lifts. For thicker applications, contact MAPEI Technical Services for product recommendation.
3. Complete the renovation by applying an additional skimcoat of *Planitop 21* over the repair and the adjoining area for a clean, uniform appearance.

CURING

- After placement, protect *Planitop 21* from excessive heat and wind.
- Use a water-based curing compound conforming to ASTM C309. Do not use solvent-based curing compounds.

CLEANUP

- Wash hands and tools promptly with water before material hardens.
- Cured material must be mechanically removed.

Product Performance Properties

Laboratory Tests	Results
Compressive strength – ASTM C109 (CAN/CSA-A5)	
1 day	2,800 psi (19,3 MPa)
7 days	4,350 psi (30 MPa)
28 days	> 6,100 psi (42,1 MPa)
Freeze/thaw resistance – ASTM C666-A (CAN/CSA A23.2-9B), 500 cycles	Good – 100% durability factor
Resistance to de-icing salts – ASTM C672 (CAN/CSA A23.2-16C)	Good – 0 rating, no scaling
Rapid chloride permeability – ASTM C1202 (AASHTO T277)	Very low – 100 to 1,000

Shelf Life and Product Characteristics (before mixing)

Shelf life	1 year in original, unopened packaging stored at 73°F (23°C) in a dry and covered place.
Physical state	Powder and latex additive

Protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 24 hours before work begins. If the liquid freezes, discard it properly.

Application Properties

Mixing ratio	Part A to Part B = 5 to 1
Application temperature range	45°F to 95°F (7°C to 35°C)
Color	Gray
Pot life at 73°F (23°C)	30 minutes
Initial set at 73°F (23°C)	1 hour
Final set at 73°F (23°C)	2 hours
Time to wait before recoating	3 hours

CSI Division Classification

Resurfacing of Cast-in-Place Concrete	030130
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Packaging

Size
Plastic bag: <i>Planitop 21</i> powder (Part A): 45.85 lbs. (20,8 kg) Bottle: <i>Planitop</i> latex additive (Part B): 1.05 U.S. gals. (3,97 L)

Approximate Coverage* per Part A and Part B mixed

Thickness	Coverage
At 1/16" (1,5 mm)	94 sq. ft. (8,73 m ²) at 1/16" (1,5 mm)
At 1/8" (3 mm)	47 sq. ft. (4,37 m ²) at 1/8" (3 mm)
At 1/4" (6 mm)	23.5 sq. ft. (2,18 m ²) at 1/4" (6 mm)
Yield	
0.48 cu. ft (0,013 m ³)	

* Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions and setting practices.

Planitop® 21



RELATED DOCUMENTS

MAPEI's Technical Bulletin "The Impact of Cold Weather on Repair Materials"	010810-TB*
"Vertical and Overhead Spall Repair by Hand Application"	ACI RAP Bulletin 6
Standard Specification for Curing Concrete	ACI 308.1

* At www.mapei.com

Refer to the SDS for specific data related to health and safety as well as product handling.

STATEMENT OF RESPONSIBILITY

Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith.

ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.

We proudly support the following industry organizations:



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Customer Service

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0-1-800-MX-MAPEI (0-1-800-696-2734)

Edition Date: March 28, 2016

PR: 641 MKT: 16-1226

For the most current **BEST-BACKED™** product data and warranty information, visit www.mapei.com.

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